CLAIMS

1. (Currently amended) A motion estimation method comprising:

identifying, by a computer, one or more pixels in a first frame of a multi-view video sequence;

constraining a search range associated with a second frame of the multi-view video sequence to an area relative to a position of an epipolar line in the second frame, ~~the second frame offset in time from the first frame,~~

wherein the epipolar line corresponds to the one or more pixels in the first frame,

the area is defined by a desired correlation between efficient compression and semantic accuracy, and

the semantic accuracy relies on use of geometric configurations of cameras capturing the multi-view video sequence, and

wherein constraining the search range comprises finding a position of an initial seed on the epipolar line using a disparity vector and wherein the constrained search range is centered around the initial seed and a height of the search range is determined by the desired correlation between efficient compression and semantic accuracy; and

searching the second frame within the constrained search range for a match of the one or more pixels identified in the first frame for subsequent use in computing a motion vector for the one or more pixels.

2. (Previously Presented) The method of claim 1 wherein the position of the epipolar line depends on the geometric configurations of the cameras.

3. (Original) The method of claim 1 wherein the one or more pixels in the first frame represent a block.

4. (Previously Presented) The method of claim 1 further comprising:

computing the epipolar line in the second frame.

5. (Original) The method of claim 4 wherein the epipolar line is computed using a fundamental matrix.

6. (Previously Presented) The method of claim 1 wherein constraining the search range comprises:

determining parameters of a window covering the initial seed and the epipolar line based on the desired correlation between efficient compression and semantic accuracy.

7. (Canceled)

8. (Previously Presented) The method of claim 1 further comprising:

receiving the desired correlation between efficient compression and semantic accuracy from a user.

9. (Previously Presented) The method of claim 8 further comprising:

communicating to a user a user interface facilitating user input of the desired correlation between efficient compression and semantic accuracy.

10. (Previously Presented) The method of claim 9 wherein the user interface provides a slider to enable the user to specify the desired correlation between efficient compression and semantic accuracy.

11. (Previously Presented) The method of claim 9 wherein the user interface allows the user to modify a previously specified correlation between efficient compression and semantic accuracy at any time.

12. (Currently amended) A computer readable memory ~~storage~~ medium that provides computer program instructions, which when executed on a computer processor cause the processor to perform operations comprising:

identifying one or more pixels in a first frame of a multi-view video sequence;

constraining a search range associated with a second frame of the multi-view video sequence to an area relative to a position of an epipolar line in the

second frame, ~~the second frame offset in time from the first frame,~~ wherein the epipolar line corresponds to the one or more pixels in the first frame, the area is defined by a desired correlation between efficient compression and semantic accuracy, and the semantic accuracy relies on use of geometric configurations of cameras capturing the multi-view video sequence, and wherein constraining the search range comprises finding a position of an initial seed on the epipolar line using a disparity vector and wherein the constrained search range is centered around the initial seed and a height of the search range is determined by the desired correlation between efficient compression and semantic accuracy; and

searching the second frame within the constrained search range for a match of the one or more pixels identified in the first frame for subsequent use in computing a motion vector for the one or more pixels.

13. (Currently amended) The computer readable memory ~~storage~~ medium of claim 12 wherein the position of the epipolar line depends on the geometric configurations of the cameras.

14. (Currently amended) The computer readable memory ~~storage~~ medium of claim 12 wherein the one or more pixels in the first frame represent a block.

15. (Currently amended) The computer readable memory ~~storage~~ medium of claim 12 wherein the operations further comprise:

computing the epipolar line in the second frame.

16. (Currently amended) The computer readable memory ~~storage~~ medium of claim 15 wherein the epipolar line is computed using a fundamental matrix.

17. (Currently amended) The computer readable memory ~~storage~~ medium of claim 12 wherein constraining the search range comprises:

determining parameters of a window covering the initial seed and the epipolar line based on the desired correlation between efficient compression and semantic accuracy.

18. (Canceled)

19. (Currently amended) The computer readable memory ~~storage~~ medium of claim 12 wherein the operations further comprise:

communicating to a user a user interface facilitating user input of the desired correlation between efficient compression and semantic accuracy.

20. (Currently amended) A computerized system comprising:

a memory; and

at least one processor coupled to the memory, the at least one processor executing a set of instructions which cause the at least one processor to

identify one or more pixels in a first frame of a multi-view video sequence,

constrain a search range associated with a second frame of the multi-view video sequence to an area proximate to a position of an epipolar line in the second frame, ~~the second frame offset in time from the first frame,~~ wherein the epipolar line corresponds to the one or more pixels in the first frame, the area is defined by a desired correlation between efficient compression and semantic accuracy, and the semantic accuracy relies on use of geometric configurations of cameras capturing the multi-view video sequence, and wherein constraining the search range comprises finding a position of an initial seed on the epipolar line using a disparity vector and wherein the constrained search range is centered around the initial seed and a height of the search range is determined by the desired correlation between efficient compression and semantic accuracy, and

search the second frame within the constrained search range for a match of the one or more pixels identified in the first frame for subsequent use in computing a motion vector for the one or more pixels.

21. (Previously Presented) The system of claim 20 wherein the position of the epipolar line depends on the geometric configurations of the cameras.

22. (Original) The system of claim 20 wherein the one or more pixels in the first frame represent a block.

23. (Previously Presented) The system of claim 20 wherein the processor is to constrain the search range by determining parameters of a window covering the initial seed and the epipolar line based on the desired correlation between efficient compression and semantic accuracy.

24. (Canceled)

25. (Previously Presented) The system of claim 20 wherein the processor is further to communicate to a user a user interface facilitating user input of the desired correlation between efficient compression and semantic accuracy.

26. (Currently amended) A motion estimation apparatus comprising:

a block identifier to identify one or more pixels in a first frame of a multi-view video sequence;

a search range determinator to constrain a search range associated with a second frame of the multi-view video sequence to an area proximate to a position of an epipolar line in the second frame, ~~the second frame offset in time from the first frame,~~ wherein the epipolar line corresponds to the one or more pixels in the first frame, the area is defined by a desired correlation between efficient compression and semantic accuracy, and the semantic accuracy relies on use of geometric configurations of cameras capturing the multi-view video sequence, wherein the search range determinator is to constrain the search range by finding

a position of an initial seed on the epipolar line using a disparity vector and wherein the constrained search range is centered around the initial seed and a height of the search range is determined by the desired correlation between efficient compression and semantic accuracy; and

a searcher to search the second image within the constrained search range for a match of the one or more pixels identified in the first frame for use by a motion vector calculator to compute a motion vector for the one or more pixels.

27. (Previously Presented) The apparatus of claim 26 wherein the position of the epipolar line depends on the geometric configurations of the cameras.

28. (Original) The apparatus of claim 26 wherein the one or more pixels in the first frame represent a block.

29. (Previously Presented) The apparatus of claim 26 wherein the search range determinator is further to compute the epipolar line in the second frame.

30. (Previously Presented) The apparatus of claim 26 wherein the search range determinator is to constrain the search range by determining parameters of a window covering the initial seed and the epipolar line based on the desired correlation between efficient compression and semantic accuracy.

31. (Previously Presented) The apparatus of claim 26 wherein the search range determinator is further to communicate to a user a user interface facilitating user input of the desired correlation between efficient compression and semantic accuracy.